IN THE CLAIMS:

1.   (Currently Amended) An apparatus for multiplexing a line, comprising:

a plurality of conversion processors, wherein each conversion processor is configured to modulate ~~one of~~ a ~~call processing request~~ communication signal ~~and transmission data~~ provided by a user application to create an interim modulated signal, analyze the communication signal to determine a type of communication signal and ~~to~~ demodulate the interim modulated signal to create a secondary original signal based on the type of communication signal ~~, and wherein each conversion processor is also configured to demodulate an externally provided signal and to provide the demodulated signal to a corresponding user application~~;

a main controller configured to process ~~call processing request~~ signals provided from at least one of the conversion processors ~~to generate call control data that is added to transmission data in at least one header field, and wherein the main controller is configured to separate a header data included in an externally provided signal~~; and

a multiplexing/demultiplexing processor configured to logically multiplex signals output from the main controller, and to demultiplex an externally provided signal.

2.   (Original) The apparatus of claim 1, wherein each conversion processor comprises:

a pulse code modulation (PCM) modulator configured to modulate a signal provided by a user application by a PCM mode;

a digital signal processor configured to determine a type of a modulated signal provided from the PCM modulator and to output the modulated signal to a path corresponding to the determined type; and

a demodulating/modulating portion configured to demodulate the modulated signal provided from the digital signal processor.

3.   (Original) The apparatus of claim 2, wherein each conversion processor also includes a first line connector, configured to communicate with a user application, that is coupled to the PCM modulator.

4.   (Currently   Amended)   The   apparatus   of   claim   2,   wherein   the demodulating/modulating portion comprises:

a first demodulator/modulator configured to demodulate a first type of communication signal output from the digital signal processor to create a first type of secondary original signal, ~~and to modulate a first type of communication signal provided from the main controller~~;

a second demodulator/modulator configured to demodulate a second type of communication signal output from the digital signal processor to create a secondary original signal, ~~and to modulate the second type of communication signal provided from the main controller~~; and

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a third demodulator/modulator configured to demodulate a third type of communication signal output from the digital signal processor to create a third type of secondary original signal, ~~and to modulate the third type of communication signal provided from the main controller.~~

5. (Original) The apparatus of claim 1, wherein each conversion processor also includes a first connection controller configured to generate a serial signal, based on the secondary original signal, and to output the serial signal to the main controller.

6. (Original) The apparatus of claim 1, wherein the multiplexing/demultiplexing processor comprises a modem processor for converting a call processing request signal and transmission data provided from the main controller to analog signals.

7. (Original) The apparatus of claim 6, further comprising a second line connector configured to process communications with an external apparatus, wherein the second line connector is coupled to the modem processor.

8. (Original) The apparatus of claim 6, further comprising a second connection controller for controlling signals provided from the main controller to the modem processor.

9.   (Original) The apparatus of claim 1, wherein the call control data comprises at least one of a message type, a port discriminator, a user information, and a characteristic information.

10.   (Original) The apparatus of claim 9, wherein the message type is one of setting, release and maintenance of a call.

11.   (Original) The apparatus of claim 9, wherein the port discriminator is indicative of a discriminator of one of the conversion processors.

12.   (Original) The apparatus of claim 11, wherein the characteristic information includes at least one of a signal type, a data coding mode of the user application, a modem mode and information for a communication line speed.

13.   (Currently Amended) A data transmission method comprising ~~the steps of~~:

modulating ~~one of~~ a ~~call processing request~~ communication signal ~~and transmission data~~ provided from a user application ~~with~~ using a conversion processor ~~by a pulse code modulation (PCM) mode~~ to create an interim modulated signal;

~~demodulating the interim modulated signal to create a secondary original signal~~

determining a type of communication signal that was modulated to create the interim modulated signal;

<u>interim modulated signal</u>;

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demodulating the interim modulated signal with a demodulator having a path set to correspond with the determined type of communication signal;

processing a ~~call processing request~~ signal from the conversion processor ~~with~~ using a main controller that is coupled to the conversion processor ~~to generate call control data that is added to transmission data in at least one header field~~; and

logically multiplexing signals output from the main controller with a multiplexing processor, wherein the multiplexing processor is coupled to the main controller.

14.   (Currently Amended) The method of claim 13, ~~wherein the demodulating step comprises the steps of:~~

~~determining a type of communication signal that was modulated to create the interim modulated signal~~, wherein a first type of communication signal is a voice signal, a second type of signal is a facsimile signal, and a third type of communication signal is a data signal~~; and~~

~~demodulating the interim modulated signal with a demodulator having a path set to correspond with the determined type of communication signal.~~

15.   (Currently Amended) The method of claim 13, further comprising ~~a step of~~ controlling the conversion processor with the multiplexing processor to match their respective signal transmission modes.

16.   (Original) The method of claim 13, wherein the call control data includes at least one of a message type, a port discriminator, user information, and a user characteristic information.

17.   (Original) The method of claim 16, wherein the message type is one of a setting, a release and a maintenance of a call.

18.   (Original) The method of claim 16, wherein the port discriminator is indicative of a conversion processor coupled to a corresponding user application.

19.   (Original) The method of claim 16, wherein the user characteristic information includes at least one of a signal type, a data coding mode of the user application, a modem mode and information for a communication line speed.

20.   (Currently Amended) A data transmission method comprising ~~the steps of~~:

demultiplexing an externally provided multiplexed input signal ~~with~~ using a demultiplexing processor;

processing ~~a call processing request signal~~ signals transmitted from the demultiplexing processor ~~with~~ using a main controller coupled to the demultiplexing processor ~~and separating header data included in the call processing request signal provided from the demultiplexing processor~~; and

modulating based on a type of the communication signal and then demodulating

signals provided from the main controller ~~with~~ using one of a plurality of conversion processors

to transmit the ~~signal~~ signals respectively to a corresponding user application, wherein each of

the plurality of conversion processors is coupled to the main controller and a corresponding user

application, and wherein each of the plurality of conversion processors comprises a first

demodulator/modulator configured to modulate a first type of communication signal provided

from the main controller, a second demodulator/modulator configured to modulate the second

type of communication signal provided from the main controller, and a third

demodulator/modulator configured to modulate the third type of communication signal

provided from the main controller.

21.   (New) The apparatus of claim 1, wherein the communication signal is one of a

call processing request signal and transmission data.

22.   (New) The apparatus of claim 21, wherein the main controller is further

configured to receive call processing request signals provided from at least one of the conversion

processors to generate call control data that is added to transmission data in at least one header

field.

23.   (New) The apparatus of claim 22, wherein the main controller is configured to

separate a header data included in an externally provided signal.

24. (New) The apparatus of claim 1, wherein each conversion processor is also configured to demodulate an externally provided signal and to provide the demodulated signal to a corresponding user application.

25. (New) The apparatus of claim 4, wherein the first demodulator/modulator is further configured to modulate a first type of communication signal provided from the main controller, wherein the second demodulator/modulator is further configured to modulate a second type of communication signal provided from the main controller, and wherein the third demodulator/modulator is configured to modulate a third type of communication signal provided from the main controller.

26. (New) The method of claim 13, wherein the communication signal is one of a call processing request signal and transmission data.

27. (New) The method of claim 13, wherein processing a signal from the conversion processor using a main controller that is coupled to the conversion processor comprises processing a call processing request signal from the conversion processor using a main controller that is coupled to the conversion processor to generate call control data that is added to transmission data in at least one header field.

28.   (New) The method of claim 13, wherein modulating a communication signal provided from a user using a conversion processor to create an interim modulated signal comprises modulating a communication signal provided from a user using a conversion processor to create an interim modulated signal using a pulse code modulation (PCM) mode.

29.   (New) The method of claim 20, wherein processing signals transmitted from the demultiplexing processor using a controller coupled to the demultiplexing processor comprises processing call processing request signals transmitted from the demultiplexing processor using a controller coupled to the demultiplexing processor.

30.   (New) The method of claim 29, further comprising separating header data included in the call processing request signal provided from the demultiplexing processor.